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AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A method for storing a semantic object derived from geological seismic survey data, the method comprising:

receiving a semantic object;

summarizing attributes of said semantic object;

indexing the summary of attributes; and

storing the summary of attributes and the index of the summary of attributes, wherein said summary of attributes comprises one of a slice label, a signal strength, and a coordinate of a surveyed segment.

2. (Original) The method of claim 1, wherein the semantic object comprises a summary representation of raw data measurements.

3. (Original) The method of claim 1, further comprising searching a database of a plurality of indexed attributes of semantic objects.

4. (Original) The method of claim 3, further comprising searching the index of the plurality of semantic object attributes to identify a semantic object having attributes that match a query and retrieving the identified semantic object.

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5. (Original) The method of claim 3, wherein an optimizing mechanism is used in searching to optimize the process of searching.

6. (Original) The method of claim 1, wherein the semantic object represents a model of a phenomena of interest that is measured by a collection of data which exceeds a data size that is accessible with a predetermined efficiency by multiple simultaneous users.

7. (Canceled).

8. (Original) The method of claim 1, wherein the index of the summary of attributes comprises a plurality of key features that have been resolved into a set of data points and summary statistics.

9. (Original) The method of claim 1, wherein the summary of attributes comprises one of a confidence level, summary statistics and a compact approximation.

10. (Original) The method of claim 9, wherein the compact approximation comprises a multiple segment polyline.

11. (Original) The method of claim 10, wherein each segment of the multiple segment polyline comprises a best fit line having end point coordinates and a slope.

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12. (Original) The method of claim 9, wherein the confidence level represents a degree of

accuracy of classification for the semantic object.

13. (Original) A method of deploying computer infrastructure, comprising integrating

computer-readable code into a computing system, wherein the code in combination with the

computing system is capable of performing the method of claim 1.

14. (Currently amended) A program embodied in a computer readable medium executable by a

digital processor, the program comprising:

    instructions for receiving a semantic object;

    instructions for summarizing attributes of a semantic object derived from geological

seismic survey data;

    instructions for indexing the summary of attributes; and

    instructions for storing the summary of attributes and the index of the summary of

attributes, ~~wherein said summary of attributes comprises one of a slice label, a signal strength,~~

~~and a coordinate of a surveyed segment.~~

15. (Previously presented) The program of claim 14, wherein the semantic object comprises a

summary representation of raw data measurements.

16. (Previously presented) The program of claim 14, further comprising instructions for

searching a database of a plurality of indexed attributes of semantic objects.

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17. (Previously presented) The program of claim 16, further comprising instructions for

searching the index of the plurality of semantic object attributes to identify a semantic object

having attributes that match a query and retrieving the identified semantic object.

18. (Previously presented) The program of claim 16, wherein an optimizing mechanism is used

in searching to optimize the process of searching.

19. (Previously presented) The program of claim 14, wherein the semantic object represents a

model of a phenomena of interest that is measured by a collection of data which exceeds a data

size that is accesible with a predetermined efficiency by multiple simultaneous users.

20. (Canceled).

21. (Previously presented) The program of claim 14, wherein the index of the summary of

attributes comprises a plurality of key features that have been resolved into a set of data points

and summary statistics

22. (Previously presented) The program of claim 14, wherein the summary of attributes

comprises one of a confidence level, summary statistics and a compact approximation.

23. (Previously presented) The program of claim 22, wherein the compact approximation

comprises a multiple segment polyline.

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24. (Previously presented) The program of claim 23, wherein each segment of the multiple

segment polyline comprises a best fit line having end point coordinates and a slope.

25. (Previously presented) The program of claim 22, wherein the confidence level represents a

degree of accuracy of classification for the semantic object.

26. (Currently amended) A system for storing a semantic object, the system comprising:

    a semantic object summarizer that receives a previously-defined semantic object and

summarizes attributes of a semantic object derived from geological seismic survey data;

    an indexer that indexes the summarized attributes; and

    a database that stores the summary of attributes and the index of the summary of

attributes, ~~wherein said summary of attributes comprises one of a slice label, a signal strength,~~

~~and a coordinate of a surveyed segment.~~

27. (Original) The system of claim 26, wherein the semantic object comprises a summary

representation of raw data measurements.

28. (Original) The system of claim 26, further comprising a searching device that searches the

database of a plurality of indexed attributes of semantic objects.

29. (Original) The system of claim 26, further comprising a searching device that searches the

index of the plurality of semantic object attributes to identify a semantic object having attributes

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that match a query and retrieving the identified semantic object.

30. (Original) The system of claim 28, wherein said searching device comprises an optimizing

mechanism that optimizes the process of searching.

31. (Original) The system of claim 26, wherein the semantic object represents a model of a

phenomena of interest that is measured by a collection of data which exceeds a data size that is

accessible with a predetermined efficiency by multiple simultaneous users.

32. (Canceled).

33. (Original) The system of claim 26, wherein the index of the summary of attributes

comprises a plurality of key features that have been resolved into a set of data points and

summary statistics.

34. (Original) The system of claim 26, wherein the summary of attributes comprises one of a

confidence level, summary statistics and a compact approximation.

35. (Original) The system of claim 34, wherein the compact approximation comprises a

multiple segment polyline.

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36. (Original) The system of claim 35, wherein each segment of the multiple segment polyline

comprises a best fit line having end point coordinates and a slope.

37. (Original) The system of claim 34, wherein the confidence level represents a degree of

accuracy of classification for the semantic object.

38. (Previously presented) The method according to claim 1, wherein said semantic object has

been previously extracted from said geological seismic survey data and comprises one or more

of:

    a fault;

    a horizon;

    a channel; and

one or more subcomponent of any of the above semantic objects.